ASBESTOS

FEBRUARY 1951

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"ASBESTOS"

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MONTHLY SINCE THAT DATE
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Estate of C. J. STOVER, *Proprietor*

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DISAPPOINTMENT

In the past we have frequently referred to amphibole asbestos, or anthophyllite or perhaps tremolite, as being used for certain purposes and possibly this has given rise to a misunderstanding on the part of owners of deposits of such types of asbestos, in foreign countries, or to exporters, who do not clearly understand the difference in the various types.

To persons outside the Asbestos Industry, *asbestos is asbestos*, and they are surprised, puzzled and often do not believe us when we tell them that there is no market in this country for certain varieties.

We might explain to the uninitiated that some kinds of asbestos are not salable in this country because we have deposits ourselves which are not being worked to any extent as they have no commercial value. While there are certain uses for the material, those uses up until this time have not required very much of the material and the market prices are so very low it does not pay anyone in this country to work the deposits, and certainly it would not pay to *import* the material.

Generally speaking if the material is not of the chrysotile variety it has no value here, the exceptions to this rule being amosite and crocidolite which are in demand and command good prices.

To add to the confusion we are now told that there is in certain parts of South Africa an amphibole asbestos described as "near chrysotile" which is being used for the manufacture of asbestos-cement products. But asbestos cement products manufacturers in this country tell us that anthophyllite asbestos for instance, cannot be used satisfactorily at present for such a purpose.

We caution all buyers of asbestos fibre not thoroughly familiar with the various kinds and their uses, to bear in mind that just because someone says the material is asbestos, does not mean that it is commercially valuable, no matter how bad a shortage there may be. And a chemical analysis does not mean too much either—strength is really the main factor.

THE DEATH OF MRS. ATTO

Widely known to executives in the Asbestos Industry who frequently stay at Thetford Mines, was Mrs. Lennox W. Atto, Proprietor of the Commercial Hotel at that place.

Friends, and she had many in the Asbestos Industry, will be very sorry to learn of her death on January 11th, after a short illness.

Mrs. Atto was the daughter of the late Joseph Lessard and Lida Morrissette, both of Thetford Mines and for many years she helped operate the hotel. Inheriting it upon their death four years ago, she completed a program of remodelling most of the structure, with the exception of a log-cabin-like section, which was left unaltered because it was the oldest building in the town.

Under Mrs. Atto's management the hotel became a center for both business and recreational activities, and she was noted for her hospitable reception of guests visiting from far afield this center of Quebec's asbestos industry.

Mrs. Atto was active in the local Branch of the Canadian Red Cross, and was also a prominent sports figure, having at one time won the provincial ladies golf championship. She was also a member of the Thetford Curling Club.

She is survived by her husband, local Canadian Pacific Express Agent, and a sister, Mrs. James R. Dickenson, also of Thetford Mines.

• • • —

A special laboratory, recently designed and constructed by the Building Technology Division of the National Bureau of Standards eliminates the major difficulties that have in the past led to anomalous results in the accelerated durability testing of exterior covering materials. Developed primarily for studying organic coating materials such as asphalts, tar and paints, the new facilities are sufficiently flexible to meet the requirements of most materials exposed to weathering.

• • • —

A man's true wealth is the good he does in the world.

REPORTS ON ASSOCIATION ACTIVITIES

1. Thermal Insulation Society

This Society has several chapters; the first, in Charleston, W. Va., was organized in 1949 (See page 12, November 1949 "ASBESTOS"); Pittsburgh, Pa., Cleveland, Ohio and Philadelphia, in 1950.

It is hoped and believed that other chapters will be added to the list of active chapters during this year and perhaps a national organization effected.

A number of committees have been created for the purpose of eventually contributing substantial information for the benefit of the thermal insulation industry. Some of these committees are:

Catalog: which will review catalogs now existent and make recommendations which will assist the manufacturer in providing industry with catalogs of a more desirable nature.

Specifications: The object is to provide skeleton specifications which will enable firms purchasing, contracting or otherwise interested in thermal insulation to conform to a standard practice of procedure.

Building Insulation: This Committee will cooperate with local organizations on the proper procedure with building insulation.

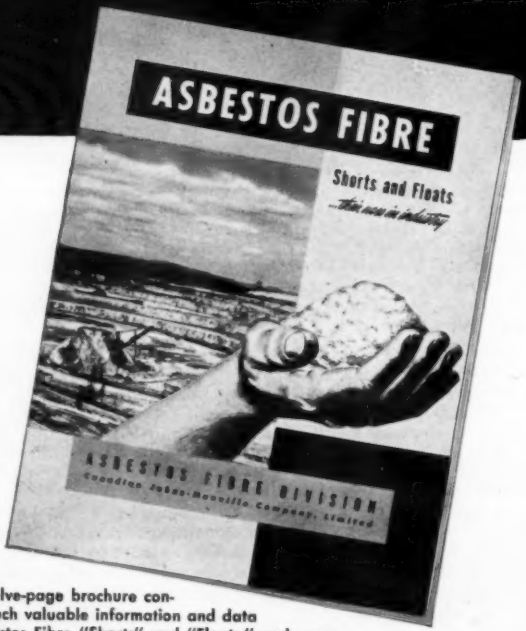
Special Problems: To supply prompt and satisfactory solution, if at all possible, of problems in connection with insulation.

Consumers: For the study of newly developed materials and presentation of information concerning the improvement of products.

There were nine meetings held during 1950 with papers and discussion of various subjects as follows:

January—Vermiculite (Leslie A. Barron)
February—Special Problems
March—"The World is Sopping Wet" (Prof. E. R. Queer)
April—Boiler Test (W. C. Turner)
May—Mineral Wool (Fred H. Sides, Jr.)
September—Kaylo (E. C. Shuman)
October—Overhead and Underground Thermal Insulation (Edwin A. Wert)
November—Special Problems

Free... the why, what and how of ASBESTOS "Shorts" and "Floats"



This twelve-page brochure contains much valuable information and data on Asbestos Fibre "Shorts" and "Floats," and recommendations for their use in product manufacture. It is available to you at no cost or obligation.

Direct your request to the address shown below.

ASBESTOS FIBRE DIVISION
Canadian Johns-Manville Limited
814 Sun Life Bldg. (Telephone: Marquette 2421) Montreal, P. Q., Canada

December—Heat and Vapor Transmission and Heat Insulation (R. H. Heilman)

Membership in this Society at the present time is by individual representation only. Later, when a national organization is effected, company membership may be granted. —*By Ray Thomas, President.*

2. Asbestos-Cement Products Association

A comprehensive program combining product promotion and educational activities, carried on by the Asbestos-Cement Products Association in behalf of the Industry, helped to make 1950 an outstanding year for the sale of asbestos-cement building materials. At the same time, the Association, thru a number of hard working committees, made considerable progress in matters pertaining to manufacturing, technical progress and sales engineering.

Thru the efforts of the publicity committee, headed by Melvin W. Searls, a record number of stories stressing the advantages of these materials were placed in newspapers and magazines. The Industry's farm motion picture, "The Ropp Farm Story," was shown before more than 250 rural groups and televised over 32 stations. For the retail dealers, a pictorial display frame with a series of unusual use photographs added to the dealer helps prepared by manufacturers.

To help promote better merchandising and selling techniques, the writer addressed a number of retail lumber dealer conventions on the subject, "Promotions That Pay for the Dealer".

The Association continued to cooperate with schools of architecture by making available speakers and literature on the subject of asbestos-cement products. A new sound slide-film, "Building With Corrugated Asbestos-Cement Sheets" was given to the colleges as an aid to the teaching of building materials.

A new printing of the Association's product and application manual, "The Asbestos-Cement Products Reference Book" was brought from the press. This booklet was supplied to colleges, agricultural leaders and builders. Many copies were distributed as a result of publicity-prompted requests.

The Association's technical committee, under Chairman J. S. Parkinson, developed methods of testing various products and prepared a specification for caulking compounds to be used with siding shingles.

Application specifications for siding shingles were drafted by the sales engineering committee, which also studied problems pertaining to nailing, packaging, new types of fasteners and the like. This committee is headed by Harold W. Davis. It works closely with the manufacturing committee, with E. S. Peterser

K&M APAC ASBESTOS-CEMENT SHEETS

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Modern design is carried out perfectly with K&M APAC, used for this smart Blue Ribbon Laundry building. Smooth and neat as the finest laundering, these APAC walls invite customers!

Attractive—lastingly economical—fire-resistant, too—APAC is ideal for exterior and interior surfaces. Other K&M cost-savers include a full line of Asbestos and Magnesia Insulations—Asbestos Textiles—Asbestos Paper and Packings—Asbestos-Cement Pipe, Corrugated Sheets, Roofing and Siding Shingles.

K&M best in asbestos ®

Nature made Asbestos...

Keasbey & Mattison has made it serve mankind since 1873

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as chairman, in matters of product improvement.

Expansion of the market for corrugated sheets was the objective of a special fact-finding committee headed by D. W. Widmayer. Its work supplemented that of the regular corrugated committee of which H. T. Richardson is chairman.

Association activities were coordinated by President Clifford F. Favrot and a planning committee made up of Mr. Widmayer, chairman, Paul G. Charbonnet, L. W. Clarke, J. E. Holbrook, Stuart H. Ralph, R. J. Tobin, W. R. Wilkinson and Stanley Woodward. —*By Chester C. Kelsey, Manager.*

3 Magnesia Insulation Manufacturers Association

At the seventh annual meeting of the Magnesia Insulation Manufacturers Association held in Philadelphia on January 26th, the following were re-elected for the ensuing year to the offices held during the past year; Ernest Muehleck, President of the Keasbey & Mattison Company as Chairman of the Board of Governors, Alvin M. Ehret, Jr., President of the Ehret Magnesia Mfg. Company, as Vice Chairman, and L. M. Cassidy, now President of Johns-Manville Corporation, as Treasurer of the Association.

85% Magnesia Insulation has been the subject of a number of studies conducted by the Magnesia Insulation Manufacturers Association during the past year. Such studies have been in the nature of surveys and technical investigations of the performance and broader application of 85% Magnesia.

Periodic meetings of the M.I.M.A. Board of Governors and the Technical-Publicity Committees were held during 1950 to initiate and review Association activities.

Outstanding in the work accomplished by the Association has been the publication of the "85% Magnesia Insulation Manual". This 96-page book covers all aspects of the performance, use and application of 85% Magnesia Insulation. Since its printing in 1949 more than 13,000 copies of the Manual have been distributed. The Manual is sent on personal requests to the Association to those having a direct interest in Insulation. Requests for the Manual have come from engineers, architects, building owners, manufacturers, schools and libraries. Several engineering colleges have requested copies for use as text for their engineering courses.

The "M.I.M.A. News", a 4-page publication of the Association is issued quarterly to an industry-wide audience of specifiers, users and applicators of Insulations. Featured in this publication are articles on application techniques and case histories on the performance and use of 85% Magnesia in the various industrial and commercial fields.

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News items from the Association have appeared in the trade press and technical journals. These articles describe installations of 85% Magnesia in the country's leading plants and buildings, explain the application of Magnesia on particular equipment, discuss special insulating problems and guide the reader on insulating theory and practice. The association has filled many requests for reprints of these feature articles.

In keeping with its purpose and objectives thru the encouragement of research and development, the Magnesia Insulation Manufacturers Association and its members are continually seeking to improve 85% Magnesia and to educate the public in its various applications and uses.—*By Marshall F. Allen, Manager.*

SOLVING A COMMON PACKING PROBLEM

Contributed

Expansion of packing commonly causes trouble. Thus when a packing gets hot its volume increases, which in turn makes the packing too tight, thereby interfering with the movement of the piston rod, valve stem, shaft, or whatever it is that is packed by the packing.

Obviously, the best possible remedy for a condition of this kind is to use a packing that neither expands nor contracts on heating or cooling.

Many users of packings are not aware of the existence of such non-expanding packings on the market. There is a metallic packing that is based on a metal possessing the desirable property of expanding upon cooling and contracting upon heating. In conjunction with the other materials in the packing it is therefore an ideal substance because it produces a packing which in total volume neither increases nor decreases regardless of the temperature. It withstands temperatures up to 1200 deg. F. and it resists corrosion from acids, alkalies and electrolysis.

Years ago it was thought packings could not be improved. We thought we had the "last word" in packings. Surprising as it may seem improvements are being made right along, and no doubt will continue to be made for many years to come—as long as human beings are capable of thinking constructively.

— • • •

A handful of common sense is worth a bushel of learning.

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ARE ASBESTOS FIBRES TUBULAR?

A new theory as to the construction of asbestos fibres has recently been advanced—that asbestos fibres in the last analysis, are *tubular* in form rather than solid.

For the last month or so we have been collecting data bearing on the subject and present in this article, our findings.

To begin, let us go back to the original theory, held for so many years, that asbestos fibres are solid. Consulting Cirkel[1], recognized as an authority on the subject of asbestos, we find on page 85 of his book "Chrysotile Asbestos; Its Occurrence, Exploitation, Milling and Uses" (and retained in the book "Chrysotile Asbestos in Canada" by J. G. Ross, published in 1931) the following:

The outlines of the fibres when examined under high, microscopic powers, are round, prismatic, and polygonal: but the majority are polygonal or round. All fibres exhibit—when examined under a common lens—the same characteristics of 'crowding'; that is grouping together of numerous fine threads within what appears to be a single fibre. The actual size of the fibres of all varieties—i.e. the diameter—is consequently indefinite, and altho careful measurements have been made which show that the smallest diameter so far determined is 0.00075 millimetre, it can be demonstrated that even the finest filament measured is composed of fine threads, evidencing that its division is infinitesimal.

(Editor's Note: **At that time—Cirkel's Book was published in 1910 —the finest asbestos fibres known were those from Arizona and Russia, and were 0.00075 millimetre, or 33,325 per lineal inch. We have been told, however, that more recent measurements show chrysotile fibres of much less diameter, probably 850,000 fibrils to 1,400,000 and more to the inch.)**

These studies of the fibres, under the microscope were concerned more with the smoothness of the fibres on the outside than they were about the inside, but surely if any of the scientists who worked on the project had suspected that in the last analysis the fibres were hollow, some mention would have been made of it.

Some months ago, however, photographs of various fibres were taken with an electron microscope at the University of California at Los Angeles, and others at the RCA Laboratories (Radio Corporation of America) at Princeton, N. J., the latter by Dr. J. Hillier. Dr. Hillier has very kindly supplied one of the photographs (taken

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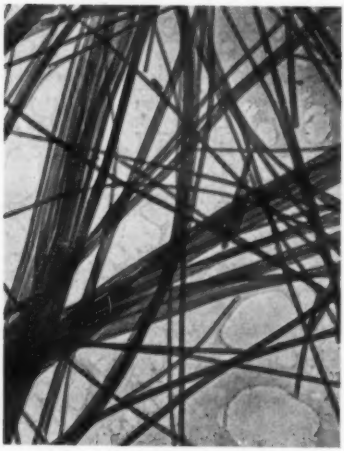
by electron microscope at 35,000 magnification) of asbestos fibres, a part of which is reproduced below.[2] Altho, naturally, the reproduction of the photograph does not show it as plainly as the photograph, there *is* a suggestion that the fibres are tubular.

In the meantime, the subject has been studied by various physicists and articles have been written, outstanding among which is "Tubular Crystals of Chrysotile Asbestos" by Thomas F. Bates, Leonard C. Sand, and John F. Mink, which appeared in "Science" (published by the American Association for the Advancement of Science) Vol III, No. 2889, of May 12, 1950. The studies were made at Penn. State College.



An earlier article "Electron Microscopy of Colloidal Systems" by John Turkevich, Princeton, N. J., and James Hillier, was published in Analytical Chemistry, Issue of April 1949, but this devotes only a paragraph to asbestos, which, following a picture of the asbestos fibres, reads:

"Many forms of asbestos minerals are in the form of fibres, thus crocidolite, amosite, anthophyllite and chrysotile are revealed by the electron microscope to be fibres of differing diameter. The finest of all these fibres is found in Chrysotile whose fibres are 180 Å in diameter with a strong suggestion that they are hollow."

Another article "Morphology and Structure of the Serpentine Minerals, Antigorite and Chrysotile" was presented by Prof. Bates and John F. Mink at a meeting of the Mineralogical Society of America, and it is quite

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probable that this will be published in the American Mineralogist later on. If and when it appears "ASBESTOS" readers will be advised of it.

Comment on this subject has been made at our request by one of the research staff[3] of Johns-Manville as follows;

It is true that a number of scientists today are advocating a tubular structure for chrysotile. Dr. Hillier himself considers the electron micrographs which he has taken to indicate some type of tubular structure. The paper in "Science" gives evidence in support of a tubular structure, and recently Bates and Fink of Pennsylvania State College presented at the November 5, 1950 meeting of the American Mineralogical Society held at Washington, D. C., a more detailed paper[4] wherein they point out an analogy between the structure of clay-like minerals and the serpentine minerals. On the basis of studies made with the electron microscope, by X-Ray diffraction and by differential thermal analysis, it is concluded that there is a tubular structure and that the tube-like fibres are the result of curvature of the 001 crystal plane parallel to the *a* and *b* crystallographic axes. The degree of this curvature depends on: (1). discrepancy of dimensions of "sheets" which make up the unit of structure, and (2). strength of the bonds between the units.

Tubular crystals are believed to be known in other minerals, specifically, Endellite. Thus it is postulated that chrysotile, the fibrous type of serpentine, bears the same relation to antigorite, the plate-like form of serpentine, as the tubular Endellite does to the plate-like Kaolinite.

We have discussed this question of tubular structure with various competent mineralogists and crystallographers, and are advised that there is nothing inconsistent in theoretical crystallography to the existence of tube-like crystals, altho this has seemed to be contrary to the older concepts of crystal formation.

"ASBESTOS" readers will be kept advised of any further developments in connection with this very interesting discussion. Just what purpose it will serve, however, remains obscure to the layman. Certain scientists are trying to synthesize chrysotile asbestos and naturally the more they know of the structure of the natural material, the better will they be prepared for their experiments to make synthetic asbestos.

[1]Fritz Cirkel—Chrysotile-Asbestos, Its Occurrence, Exploitation, Milling and Uses, published in 1910 and brought up to date in 1931 by J. G. Ross.

[2]If any of our readers would care to have one of the original photographs from which this reproduction was made, we can obtain one for you at small cost.

[3]A. B. Cummins.

[4]This refers to the article mentioned in preceding paragraph.

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EHRET'S NEW PLANT

Ehret Magnesia Manufacturing Company announces the completion of their new plant, located at the Company's present site at Valley Forge, Pa.

We have been told by persons who have seen this new plant that it is the "last word" in magnesia manufacture; in fact one man described it as "push-button" procedure.

Operating under a revised processing procedure, the plant is manufacturing an improved 85% Magnesia

Insulation in both pipe covering and block form. Compared to former filter-molded 85% Magnesia, the new product—called Ehret Thermalite—is molded to final shape, has a lower thermal conductivity and is more uniform in dimensions and density. Thermalite is made in sectional form according to the now generally used "Simplified Thickness Standards" so that every practical size and thickness of pipe covering can be secured by the convenient application of successive layers of Magnesia Insulation.

Ask the Ehret Company for their Bulletin 9-0, which gives information on their Thermalite 85% Magnesia.

UNITED ASBESTOS CORPORATION

(Photograph and information supplied by Clyde H. Shoemaker, Empire State Bldg., New York City)

We have made mention from time to time of the United Asbestos Corporation and its discovery and interest in a deposit of asbestos *under* Black Lake.

The picture shows the headframe of the shaft which has been sunk and other buildings in connection with this project. The shaft was down 500 feet the middle of January. Tho intentionally located outside and quite a distance from the main ore body, considerable asbestos bearing rock has been encountered and hoisted in the course of sinking the shaft.

QUALITY CONTROL IN ASBESTOS MANUFACTURING

By Ralph E. Wareham, Consultant on Quality Control, Chappaqua, N. Y.

Down thru the years of industrial progress, industrial leaders have been ever seeking better materials for their products. In this search, they have desired not only inherently better strength, workability, and general usefulness—but also increased uniformity from lot to lot as materials are used.

This matter of uniformity and its implications on processing and finished product is a subject which has been receiving increasing attention during the past three decades. The first World War brought emphasis on uniformity thru mass production of war materials to closer specifications than had been required in previous peacetime production. World War II accentuated this trend with requirements for even closer specifications. The end is not in sight and consumer demand for increased product uniformity goes on.

In this situation, a new science has developed to assist plants in processing materials to closer standards and in manufacturing products to meet rigid specification requirements. This new science is called "Quality Control".

Several companies in the asbestos field have important programs of quality control now in operation. These programs are set up to follow closely process uniformity from raw materials thru to the finished product. To achieve this end, much special training of personnel is required in most companies. The Johns-Manville Corporation has done an outstanding job in this training by means of its color-sound film on "Modern Quality Control", covering all phases of quality control operations.

It has demonstrated effectively in many industries that product quality can best be assured when every step of processing is carefully controlled—from raw material to the finished product. This means that the product must

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be "made right" every step of the way—rather than waiting until the lot has been finished and then wondering whether the lot can be used or how it can be disposed of.

In the Asbestos Industry, as in other extractive industries, the initial stages of this control are very difficult. Nature has her own variations. No two mines give exactly identical ore and—while these variations may not be too great in many instances—yet they must be corrected for the next step, the processing operations. On thru later stages in plant operations, similar other variables, must be closely controlled.

The methods of statistical quality control are well adapted to these needs. By use of statistical technique, proper sampling can be carried on so that from hour to hour the exact quality of the process will be known at all key control points. Then, if something goes bad, corrective action can be started at once without waiting for finished product testing.

Statistical quality control methods provide a basis for distinguishing between the normal variation inherent in a material or process and the abnormal variation due to assignable causes. This is done by means of control limits on operating charts. When successive process tests are being closely controlled, all points will fall within the control limits set for normal variation. Whenever an abnormal factor enters the process, an assignable cause is present and immediate action is needed to regain control. This timing of the need for action in processing is a major contribution of the control chart in modern quality control.

Such a chart is shown on Page 24. The chart shows tests on asbestos roving yarn manufactured at the time when a quality control program was first set up. Each successive value recorded on the chart represents the average of ten samples taken from each lot of 10-cut roving. The control limits were set in the method outlined in the "A. S. T. M. Manual on Presentation of Data".

The above analysis of these first samples showed a number of lots to have more than normal variation in yards per pound. A careful investigation was launched

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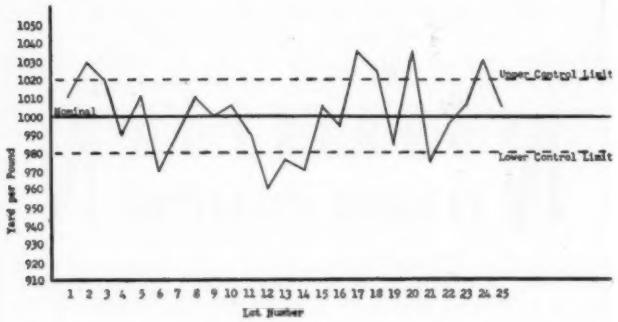
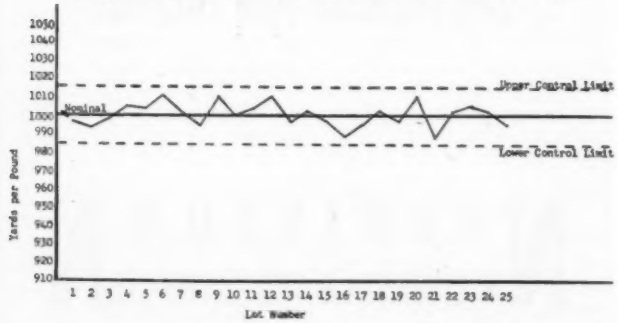
Initial Control Chart for 10-cut Asbestos Roving



in the producing plant regarding the abnormal lots and the reason was quickly found—and directly related to machine settings in fibre manufacture. Closer attention to these machine settings on subsequent lots gave the following control chart:

Subsequent Control Chart for 10-cut Asbestos Roving



The conformance to even closer limits on yarn tests will be noted. This increased uniformity was directly related to achieving increased product uniformity in the processing plant.

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Detroit 26, Mich.

All in all, statistical quality control methods are a powerful tool for industry—all industry. The December 1949 issue of Fortune Magazine included an article under the title "Statistical Quality Control is Among the Sharpest Management Tools Developed in Half a Century". Managements in all fields of asbestos operations would do well to look carefully at their own processes in the light of modern quality control methods.

WAGE RATE CHANGES

Wage rate changes for Asbestos workers (pipe and boiler coverers) as reported in the January number of the Asbestos Worker (published quarterly by the International Association of Heat and Frost Insulators and Asbestos Workers) are as follows:

Anchorage, Alaska	$3.50
Amarillo, Texas	2.50
Atlanta, Ga.	2.50
Billings, Mont.	2.37½
Birmingham, Ala.	2.50
Borger, Texas	2.50
Bremerton, Washington (Pudget Sound Navy Yard)	1.84
Charleston, S. C. (Navy Yard)	1.71
Detroit, Mich.	2.70
+ 5c W. F.	
Duluth, Minn.	2.15
Effective June 1, 1951	*2.25*
El Paso, Texas	2.50
Fort Wayne, Ind.	2.35
Jacksonville, Fla.	2.40
Knoxville, Tenn.	2.50
Lawrenceburg, Indiana (Distillery Plant Workers only)	2.09½
Little Rock, Ark.	2.50
Long Beach, California (Navy Yard)	1.84
Mare Island (Naval Shipyard) Vallejo, Calif.	1.87
Miami, Fla.	2.50
Nashville, Tenn.	2.37½
New York Naval Shipyard	1.84
Norfolk, Va. (Navy Yard)	1.72
Oklahoma City, Okla.	2.50
Oleum, Calif (Union Oil Co. Maintenance only)	2.50
Philadelphia, Pa. (Navy Yard)	1.81
Phoenix, Ariz.	2.50
Pittsburgh, Pa.	2.75
Effective June 1, 1951	*2.87½*
Providence, R. I.	2.45
+9c W. F.	
San Francisco (Naval Shipyard)	1.87
Savannah, Ga.	2.50
Seattle, Wash.	2.55
Tacoma, Wash.	2.55
Tampa, Fla.	2.40
Texas City, Texas (Carbide Carbon Chemical Corp. — Maintenance only)	2.21
Washington, D. C.	2.65
Effective July 1, 1951	*2.75*
Wood River, Ill. (Oil Refinery only)	2.14
Youngstown, Ohio	2.62½

Full list of cities with rates was given in our August 1950 number; changes in our December 1950 number, page 30. W. F. (above) means Welfare Fund.

MARKET CONDITIONS

GENERAL BUSINESS

"The country is moving more rapidly each month to make armament its principal business and to subordinate civilian activity and the peacetime way of life as far as may be necessary" says the National City Bank letter for January, and this about sums up the general business situation.

Price and wage controls having been installed, it remains to be seen whether they will work to the good or the ill of the country, of business, and of the general public.

ASBESTOS—RAW MATERIAL

Higher prices have been placed on Canadian material (see the Current Range of Price on Page 52).

Demand is increasing for practically all grades of asbestos, but especially on the longer grades for the making of all kinds of asbestos textiles. New uses for the shorter grades are being constantly found, meaning of course that their use is continually increasing.

ASBESTOS—MANUFACTURED GOODS

Asbestos Textiles. "Heavy demand" says one of our correspondents, "exists for all types of asbestos textiles, especially for asbestos cloth". With the increased prices being asked in Canada for asbestos crudes and fibres, the prices on asbestos textiles and in fact many other asbestos products cannot be anything else but firm.

Brake Lining. The market is good and with government buying at least in prospect demand will keep up to capacity, and no doubt will continue at this level during the rest of the year.

Asbestos Paper. "Three months oversold" says one comment on this market. Demand exceeds capacity to supply.

Asbestos Millboard. Increasing demand should continue thruout 1951, but will probably not exceed manufacturers' ability to supply.

Insulation. High Pressure. Demand far exceeds

production, with sectional covering requirements greater than block. The defense program is just commencing to be felt and contracts are daily arriving covering large quantities of insulating materials; in fact orders are being placed at the highest rate since the war.

We are told, however, that a considerable portion of the business being placed represents forward buying by applicators and rehandlers. Demand will undoubtedly continue high thruout the year, higher than 1950.

Insulation. Low Pressure. Demand is steady at full production level, some part of it resulting from protection orders caused by the price increase in December. Building restrictions may reduce demand somewhat later on but at that 1951 is expected to show higher sales than 1950.

Asbestos-Cement Products. The market situation remains normal for the season, with some slight increase in demand over the same period last year. Calls for all asbestos-cement products will remain high during the year.

Asbestos-Cement Pipes show backlogs on all types, with prices holding firm, but at the present this is still largely a civilian market. Construction and credit restrictions as well as acceleration of defense production, is expected to cause shift to larger proportion of defense orders within the next few months.

The above comments have been made by executives closely in touch with the various markets. All comments are welcome.

AVAILABLE

New collapsible pocket pipe gauge for measuring both standard steel and copper pipe sizes. $3.50 Postpaid.

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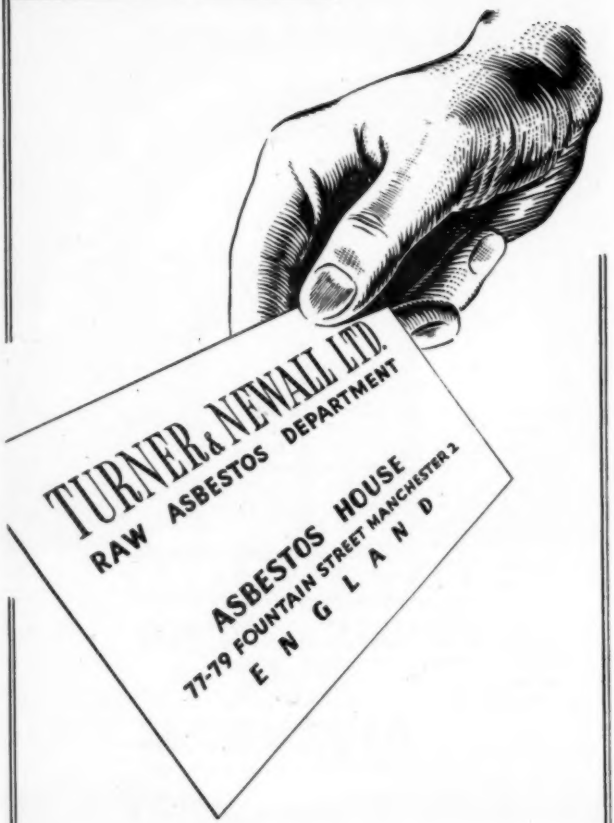
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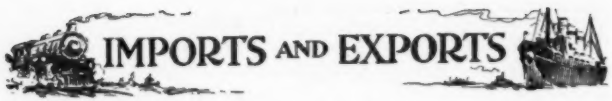

Imports into U. S. A.
(Figures by Bureau of Census)
Unmanufactured Asbestos—By Countries

	October 1950 Tons (2240 lbs.)
From Canada	69,852
S. Rhodesia	668
U. of S. Africa	1,295
Mozambique	391
Australia	45
Italy	3
Chile	58
	72,312
Valued at	*$5,349,934*
By Grades:	
Crude No. 1, Chrysotile, Canada	10
Crude No. 1, Chrysotile, Italy	2
Crude No. 2, Chrysotile, S. Rhodesia	125
Crude Other, Chrysotile, Canada	8
Crude Other, Chrysotile, S. Rhodesia	543
Crude Other, Chrysotile, Mozambique	172
Crude, Blue, U. of S. Africa	460
Crude, Blue, Australia	45
Crude, Blue, Chile	58
Crude, Amosite, U. of S. Africa	835
Crude, Amosite, Mozambique	219
Textile Fibres, Chrysotile, Canada	2,828
Textile Fibres, Chrysotile, Italy	1
Shingle Fibres, Chrysotile, Canada	9,467
Paper Fibres, Chrysotile, Canada	6,480
Other Fibres, Chrysotile, Canada	51,059
	72,312

Manufactured Asbestos Goods:

	October 1950 Quantity (Lbs.)	Value
Asbestos Yarn		
United Kingdom	14,400	$12,440
Asbestos Packing, Fabric		
United Kingdom	2,776	2,414
Asbestos Packing, Not Fabric		
United Kingdom	2,371	1,120
Asbestos Woven Fabric—Other		
United Kingdom	6,099	5,489

(Continued on page 32)

MUNDET CORK CORPORATION

Insulation Division, 7101 Tonnelle Ave., North Bergen, N. J.

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BOSTON: 57 Regent St., North Cambridge 40
CHARLOTTE, N. C.: 507 S. Cedar St.
CHICAGO 16: 2601 Cottage Grove Avenue
CINCINNATI 2: 427 West 4th Street
DALLAS 1: 021 Second Avenue
DETROIT 21: 14401 Prairie Street

Mundet district offices are located in these cities:

HOUSTON 1: Commerce and Palmer Streets
INDIANAPOLIS: 15 E. Washington Street
JACKSONVILLE 6, FLA.: 800 E. Bay Street
KANSAS CITY 7, MO.: 1428 St. Louis Avenue

LOS ANGELES (Maywood): 6116 Walker Ave.
NEW ORLEANS 16: 315-25 N. Front Street
PHILADELPHIA 39: 856 N. 40th Street
ST. LOUIS 9: 3170 Branson Ave.
SAN FRANCISCO 7: 440 Brannan Street

In Canada: Mundet Cork & Insulation, Ltd. 25 South Avenue, Toronto

Write us for name of our nearest representative if there is no Mundet office in your city.

Manufactured Asbestos Goods—Continued

	October 1950 Quantity (lbs.)	Value
Asbestos Brake Lining-Molded		
Canada	42	74
Asbestos-Cement Products-Impregnated		
Canada	63,055	3,223
Asbestos-Cement Products Not Impreg.		
Canada	1,656,511	66,044
Asbestos Manufactures—Other		
United Kingdom	...	3,678
	1,745,254	$94,482

Exports from U. S. A.

(Figures by Bureau of Census)

Unmanufactured Asbestos:

	October 1950 Tons (2240 lbs.)	Value $
To United Kingdom	228	43,315
S. America	36	1,220
Central America and Mexico	251	58,726
Europe	113	24,248
Other Countries	628	$127,509

Manufactured Asbestos Goods:

		October 1950 Quantity	Value
Asbestos Pipe Covg. & Cement	Lbs.	108,661	$ 14,820
Asbestos Textile and Yarn	Lbs.	62,852	46,295
Asbestos Packing	Lbs.	238,684	160,627
Asbestos Brake Lng. (Mld&S.Mld.)	Lbs.	335,489	263,314
Asbestos Brake Lng. (Woven)	L. Ft.	47,657	34,376
Asbestos Clutch Facings	No.	113,702	57,602
Asbestos Brake Blocks	Lbs.	29,074	28,564
Asbestos Construction Materials	Lbs.	2,810,399	185,293
Asbestos Manufactures—Other		...	21,113
			$812,004

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Mines and Mills in Gila Co., Arizona

PRODUCTION STATISTICS

Africa (S. Rhodesia)

(Published by Rhodesia Chamber of Mines)

Tons—2000 lbs.

Production for September 1950	5,860,51 tons
Valued at	£356,846
Production for October 1950	6,045.52 tons
Valued at	£389,063

Canada

(Department of Mines, Province of Quebec)

Tons—2000 lbs.

Production November 1950	87,577
Compared with November 1949	77,355
Production December 1950	73,372
Compared with December 1949	61,102

By Grades:

	Year 1950	Year 1949
Crude	904 tons	652 tons
Fibre	293,235 tons	194,582 tons
Shorts	569,755 tons	379,672 tons
	863,894 tons	574,906 tons

Correction: An error was made in our December 1950 number. In tabulating the production by grades—Crude, Fibre and Shorts—we inadverently transposed the figures for 1950 compared with 1949. Please correct your reference copies; 608,759 tons were produced in 1950! 363,450 tons in 1949, not the other way around as we have it in December "ASBESTOS".

Union of South Africa

(Quarterly Information Report—Dept. of Mines)

Tons—2000 lbs.

	2nd Quarter (April, May, June) 1950				
	Production	Local Sales		Exports	
	Tons	Tons	Value	Tons	Value
Amosite	10,929	590	£ 9,363	8,856	£313,775
Anthophyllite	89	3	53	49	1,110
Chrysotile	3,634	270	7,107	2,097	133,010
Cape Blue	3,854	315	10,620	3,095	201,035
Transvaal Blue	4,602	105	3,780	2,325	132,428
	23,108	1,283	£30,923	16,422	£781,358

Brazil

The U. S. Mineral Trade Notes records a production of asbestos in Brazil in 1949 as 15,740 metric tons or 17,350 short tons.

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461 Market Street

AUSTRALIA-STATISTICS

(Published by Bureau of Mineral Resources, Geology and Geophysics, Dept. Supply & Development)

Tons—2240 lbs.

Production

	1949
Chrysotile	362 tons
Crocidolite	1,173 tons
Amphibole	59 tons
	1,594 tons

Imports

Chrysotile	6,076 tons
Crocidolite	466 tons
Amosite	4,679 tons
Other	3,556 tons
	14,777 tons

Exports

To	United Kingdom	36 tons
	New Zealand	18 tons
	Europe	101 tons
	U. S. A.	185 tons
	Other Countries	6 tons
		346 tons

BUILDING

An even 40 per cent increase over 1949 figures was the final figure for 1950's resounding construction boom in the 37 states east of the Rockies, according to F. W. Dodge Corporation, construction news and marketing specialists. The 1950 total was $14,501,055,000.

The strongest classification in terms of comparative gain was residential which was up 59 per cent over 1949 for a total of $6,741,028,000. Non-residential awards in 1950 totaled $5,181,595,000 which was an increase of 42 per cent over the 1949 figure. Public and private work and utilities totaled $2,578,432,000 in 1950, or 4 per cent more than the 1949 total.

The December construction award total of $1,168,432,000 was 7 per cent higher than November and 26 per cent above December 1949.

In December 1950, non-residential awards totaled $490,375,000, and increase of 13 per cent over November and a gain of 62 per cent over the December 1949 total. Residential awards in December were $478,583,000 or 4 per cent less than November but 14 per cent more than December 1949.

Floor area totaled 1,313,879,000 square feet in 1950, an increase of 51 per cent over the 1949 total.

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NEWS OF THE INDUSTRY

BIRTHDAYS

I. J. Harvey, Jr., President and Director, The Flintkote Co., New York City, February 20.

Clarence E. Witherspoon, President, Asbestos Construction Co., Inc., New York City, February 20.

G. W. Marshall, Jr., Director and General Sales Manager Asbestos Products Division, Raybestos-Manhattan, Inc., Manheim, Pa., February 21.

Robert E. Cryor, Vice President, Union Asbestos & Rubber Co., Cicero, 50, Ill., February 23.

J. Albert Taylor, Vice President and Secretary, Wallace & Gale Co., Baltimore, Md., February 24.

A. S. Johnson, President, Johnson's Co., Ltd., Thetford Mines, P. Q., Canada, February 28.

Leonard Krez., President and Treasurer, Paul J. Krez Co., 444 N. LaSalle St., Chicago, Ill., February 28.

A. S. P. Sangster, General Works Manager, Wunderlich, Limited, Sydney, N.S.W., Australia, March 2.

John H. Matthews, Vice President, Raybestos-Manhattan, Inc., Passaic, N. J., March 3.

Carl Bindman, Sales Manager, Johnson's Company, Thetford Mines, P.Q., Canada, March 7.

M. E. Curtis, President and Treasurer, Curtis Asbestos Co., Boston, Mass., March 7.

George Ritter, Asbestos-Cement Associates, Inc., Millington, N. J., March 9.

P. M. Taft, President, Taft-Jenkins Co., Holyoke, Mass., March 9.

Thomas J. Casey, Treasurer, Asbestos Corporation of America, New York 6, N. Y., March 10.

W. L. Markert, President, Brooks-Fisher Insulating Co., Atlanta, Ga., March 10.

M. R. Carr, President, H. W. Porter & Co., Inc., Newark, N. J., March 11.

A. Lines, Superintendent, Curabestos Works, Wunderlich Limited, Parramatta, Australia, March 11.

James E. Wallace, Vice President, John W. Wallace & Co., Hoboken, N. J., March 11.

Theodore D. Wallace, Secretary-Treasurer, John W. Wallace & Co., Hoboken, N. J., March 11.

Harry A. Kieselbach, General Manager, Insulation Dept., Johns Manville Corp., New York City, March 14.

To all these gentlemen we extend best wishes and congratulations on the occasion of their birthdays.

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The Cape Asbestos Company, Ltd., is the world's largest supplier of acid-resistant blue crocidolite asbestos, and the only manufacturer operating its own mines. Inquiries solicited on:

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85% Magnesia Insulation

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ROBERT W. LEA, RETIRES

As President and Director of Johns-Manville

Robert W. Lea, retired on January 31, as President and Director of Johns-Manville, in accordance with the company's established retirement plan.

Mr. Lea joined the J-M organization in 1939 as Vice President for Finance, and became President in 1946.

His career with Johns-Manville closes with a new record of sales in 1950 of over $200,000,000 and earnings of more than $20,000,000.

Mr. Lea is a native of Wisconsin; among other activities during his career he was associated with General George W. Goethals, builder of the Panama Canal, and General R. E. Wood,

He will in future be active in Olin Industries, according to announcement by John M. Olin, President of that concern, having served as Director since early in 1950.

JOHNS-MANVILLE

Annual Report

In the year 1950 Johns-Manville sales set a new record of $203,272,945 and the company produced more goods, paid employees more money, had higher earnings and made greater dividend payments than in any other year in its history, according to Lewis H. Brown, Chairman of the Board. The 92nd anniversary report was mailed to stockholders on January 30th.

Consolidated net earnings of the Corporation in 1950 were $22,814,491, or $7.29 per share of common stock, compared with $14,368,926 or $4.85 per share in 1949.

Sales were $203,272,945 in 1950, compared with $162,580,782 in 1949.

Before taxes of all kinds, 1950 earnings were $42,848,095, the taxes amounting to $20,033,604.

Dividends of $3.50 per share were paid on the common stock in 1950, the total amount paid in dividends being $11,020,448, leaving $11,794,043 of earnings which were reinvested in the business.

The payroll in 1950 was $70,272,500; employment at the end of 1950 was 20,000.

Mr. Brown noted that production of asbestos fibre was increased considerably during the year. The new Munro asbestos mine and mill in Ontario were placed in production in the middle of the year, and offer a supplementary source of asbestos fibre as well as providing certain useful types of fibre not found in the old Jeffrey mine at Asbestos, Que. Underground mining was begun at the Jeffrey mine in February 1950 and about three quarters of the ore now comes from underground and one quarter from open pit. The Munro Mine is entirely open-pit method.

CELLACTITE MOVES OFFICE TO GRAVESEND

Cellactite & British Uralite Limited has moved its registered office to Gravesend. Its London Office has been closed. The new offices are at Cellactite House, Whitehall Place, Gravesend.

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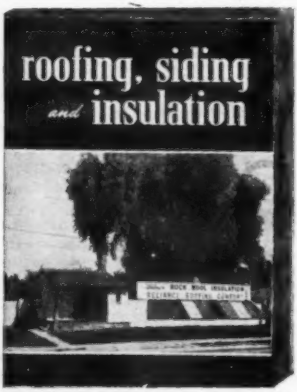

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JOHNS-MANVILLE
Announces Four Changes in Top Management.

Leslie M. Cassidy has been elected President of Johns-Manville to succeed R. W. Lea, who retired on January 31st. Mr. Cassidy has been with the Company since 1926 and has been Vice President in charge of sales for the past four years.

A new position of Vice Chairman, has been created, and *Clifford F. Rassweiler*, who is Vice President for research and development, was elected to this post. Dr. Rassweiler as Vice Chairman will be responsible for organization and direction of a new planning board and will serve as assistant and alternate to Chairman Lewis H. Brown.

A. R. Fisher was made Vice President in charge of asbestos mining. Mr. Fisher joined Johns-Manville in 1923 and became a Vice President in 1945.

John P. Syme, formerly Vice President and assistant to the Chairman, has been named assistant vice chairman.

Mr. Cassidy and Mr. Fisher were also named directors.

Three new Vice Presidents were named: *J. A. O'Brien*, General Manager of the Industrial Products Division; *Harold R. Berlin, General Manager* of the Building Products Division and *A. S. Elsenbast*, General Manager of the Celite Division. These three men are also members of the new Planning Board.

AMERICAN BRAKE SHOE CO.
Stock Conversion

American Brake Shoe Company has announced that upon presentation of shares of its 4% Cumulative Preferred Stock for conversion into shares of Common Stock, payment will be made in cash for fractional shares of Common Stock resulting from such conversion in lieu of the issuance of scrip. To effect conversion, delivery or surrender of shares of 4% Cumulative Preferred Stock should be made to Bankers Trust Company, 16 Wall Street, New York 15, N. Y.

THE A. C. P. A. ON TELEVISION

The part the mineral asbestos plays in the manufacture of modern building materials was visually demonstrated over television when Chester C. Kelsey, manager of the Asbestos-Cement Products Association, appeared as the featured guest on the "Fun and Features" program of Station WBKB, Chicago, January 15.

Interviewed by George Menard, master of ceremonies, Mr. Kelsey showed how asbestos fibres are obtained from rock and explained how the fibres are combined with portland cement to make roofing shingles, siding shingles, building board, corrugated sheets and pipes. Use of the fibres in making textiles was illustrated by an asbestos fire-fighting suit, donned by a member of the cast.

Mr. Kelsey told his television audience the use of asbestos fibres for building materials did not conflict with its utilization for war needs, since short fibres are used for building products and long fibres for weaving the textiles that go into fire-fighting garments.

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Every Use

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TURNER & NEWALL LIMITED
Directors' Report

Copy of Directors' Report for fiscal year ending September 30, 1950, has been received from Turner & Newall Limited, the annual general meeting having been held on January 25th, 1951.

The net earnings for the year (ended September 30th, 1950) were £2,636,123, from which various appropriations have been made by the Board of Directors, including Dividends, (as stated below).

The factory at Montreal is reported as progressing towards becoming an efficient production unit, and is now nearing capacity production in asbestos textiles, altho other divisions are not yet up to capacity production levels.

A general resume is given of all the plants owned or controlled by the company.

Dividends for the year totalled 17½% with a special bonus on ordinary stock at 2½%.

A. S. T. M. COMMITTEE MEETINGS

Committee C-16 on Thermal Insulating Materials will meet in Cincinnati, on March 7th during A.S.T.M. Committee Week and will feature a Symposium with several formal technical papers.

Acting as Chairman of the Program Committee for Committee C-16 is its former Chairman, Ray Thomas, Staff Engineer, Carbide and Carbon Chemicals Corporation, South Charleston, W. Va. Serving with him are R. H. Heilman, Senior Industrial Fellow, Mellon Institute, Pittsburgh, Pa., G. M. Rapp, Assistant Executive Director, John B. Pierce Foundation, Raritan, N. J., and E. R. Queer, Professor, Engineering Experiment Station, Pennsylvania State College. Prof. Queer is the current Chairman of Committee C-16.

Committee D-13 on Textile Materials will meet March 14th to 16th in New York City.

Committee D-9 on Electrical Insulating Materials will meet in Washington, D. C., March 28th to 30th.

JOHN LUNDVALL
Elected Vice President Unarco

The Board of Directors of Union Asbestos & Rubber Company announces the election of John Lundvall to the office of Vice President. Mr. Lundvall will continue to be in charge of the operations of the Company's Equipment Specialties Division, suppliers of devices for railway refrigerator cars.

CONWEST EXPLORATION CO.
Have Option on McDame Creek Claims

Conwest Exploration Co. has acquired option on asbestos claims in the McDame Creek Deposit, has built several miles of road and repaired others. They plan to take into the deposit certain equipment about March of this year and will probably do other road work thru the summer. They also intend to classify and ship a small tonnage from their claims on a trial basis.

ASBESTOS FIBRE

CRUDE NO. 1 CRUDE NO. 2

SHINGLE FIBRES

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Main Office:

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HUMBOLDT 5-2372

J-M's ATLANTA DISTRICT
Changes

George A. Petters has been made Manager of the Atlanta Building Products District of Johns-Manville, succeeding Joseph W. Hamilton who has retired because of ill health. Mr. Petters was formerly Atlanta Assistant District Manager.

W. H. Jackson, Senior Salesman, Dayton Territory, Cincinnati District, has been appointed Assistant District Manager at Atlanta.

Both these appointments were made as of January 1, 1951.

L. CHARLES UNDERWOOD
Appointed Carey Assistant Advertising Manager

L. Charles Underwood has been appointed to the position of assistant advertising manager of the Carey Company. Mr. Underwood joined Carey in 1947 and since that time has been engaged in sales and promotional field work in several of their districts. He is a graduate of the College of Commerce of the University of Cincinnati where he majored in advertising.

BEST-O-ROCK MANUFACTURING CO.
New in Asbestos-Cement Field

This firm is located in Corpus Christi, Texas, according to a news item in a recent issue of Rock Products, and produces asbestos-cement shingles with ½ in. to ¾ in. butt. The plant is owned by A. J. McCall, W. R. Brawner and Joe P. Ratliff.

Further information either from the firm itself or from other sources would be appreciated.

J. J. MILAM, P. A.
U. S. Rubber Textile Division

The appointment has been announced by U. S. Rubber Co. of J. J. Milam as Purchasing Agent of their textile division, with headquarters at Stark Mills, Hogansville, Ga. Mr. Milam has been with the Company since 1940.

PATENTS

This information obtained from the Official Patent Gazette, published weekly by the U. S. Patent Office, Washington, D. C.

Copies of patents can be obtained by sending 25c (in coin) to The Commissioner of Patents, Washington, D. C., giving the patent number, date it was issued, name of patentee and name of invention.

Impregnating Heat Insulating Material No. 2,535,087. Granted on December 26, 1950, to Carl George Munters, Stockholm Sweden. Application July 20, 1945. Serial No. 606,199. In Sweden June 6, 1940.

Magnesia, Process for Making. No. 2,537,014. Granted on January 9, 1951 to W. Austin, San Jose, Calif., Assignor to Kaiser Aluminum & Chemical Corporation. Application January 21, 1948. Serial No. 3,555.

ROVINGS	WEBBINGS
YARNS	TUBING
CLOTHS	JOINTINGS
TAPES	PACKINGS

BRITISH BELTING & ASBESTOS LTD.

CLECKHEATON · YORKSHIRE · ENGLAND

London Office: 59, Southwark Street, S.E.1

AFTERTHOUGHTS

¶The mail embargo, a result of the railroad strike, ha rather played havoc with this issue of "ASBESTOS". Certai statistics have not been received in time for inclusion i this issue; the stock quotations in some instances had t be approximated, altho the figures given will serve for al practical purposes, and some news releases may not hav reached us in time.

¶"To Defend America We Must Avoid Inflation" i the title of an address made before the Mobilization Con gress of American Industry on December 7, 1950, b Lewis H. Brown, Chairman of Johns-Manville Corpora tion. Reprints of it for distribution can be obtained fron Hibbert Printing Co., 9 Ewing St., Trenton, N. J. a nominal price. Single copies we imagine can be obtaine by request from J-M Public Relations Department.

¶Our readers will be especially interested in the re ports on Association activities during the year (startin on page 4).

¶It seems to us that this number is more interestin than usual and we hope you will find it so.

¶Important news this month; don't forget to send u items of any changes made in top personnel.

¶Photographs of plants, or people, are also always welcome.

¶A 50-page, small size booklet has recently been issue by Pangborn Corporation, Hagerstown, Md., under the titl "Industrial Dust Control Through Exhaust Systems". I contains detailed selection, operation, and maintenanc data for the plant engineer responsible for dust control The book is illustrated with 15 photographs and 10 lin drawings, and treats in three major sections: Exhaus Hoods and Pipe Systems; Dust Collecting Equipment; an Exhausters and Drives. Copy may be obtained by reques on business letterhead addressed to the Company.

¶Let us have faith that right makes might; and i that faith let us to the end, dare to do our duty as w understand it. —*Abraham Lincoln.*

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FIBRES— all varieties supplied and processed to meet every specialised requirement

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„ *Tropag* "

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BOOK LIST

The Asbestos Factbook, 16 pages. Information in compact form on origin, facts, locations, uses, analyses, qualities, 10c per copy.

Asbestos Mining Methods. By C. V. Smith. (Reprint) 16 pages. 25c per copy.

Milling Asbestos. By J. C. Kelleher. (Reprint) 16 pages. Companion article to Asbestos Mining Methods. Both should be in every Asbestos Library, 25c per copy.

Recovery of Raw Asbestos. By Roland Starkey. (Reprint) 6 pages. Supplement to Milling Asbestos. 25 per copy.

Canadian Chrysotile Asbestos Classification. Including latest Quebec Testing Method. January 1, 1949 Edition. 4 pages. 25c per copy.

Processing Asbestos Fibres. 8 pages. (Reprint) 25c per copy

Tests for Cotton Content. 4 pages (Reprint) Describing several methods of testing asbestos textile for cotton content. 10c per copy.

Chart—Dollars Cost of Uninsulated Pipe. (Reprint) 20c each

Brake Linings of Various Types, By R. T. Halstead. Reprint (12 pages) from August, September and October 1949 "ASBESTOS". Price 25c per copy.

Asbestos—The Silk of the Mineral Kingdom, by Oliver Bowles. 40 pages about asbestos, from mine to finished products, in plain language, illustrated, 25c a copy.

Twelve Estimating Tables, with Chart. Convenient in figuring flange fittings and other areas. $1.00 per set.

Manual of Unit Prices. For figuring pipe covering and blocks. 75c per single copy postpaid. Discount in quantities of 6 or more, postage billed.

Order any of the above from "ASBESTOS", 808 Western Saving Fund Bldg., Philadelphia 7, Pa. Postage stamps acceptable for amounts less than $1.00.

AUTOMOBILE SALES

	December 1950	Year 1950
Passenger Cars	521,136	6,665,628
Motor Trucks	118,874	1,332,247
Motor Coaches	664	4,907
	640,674	8,002,782

In December 1949 a total of 359,076 motor vehicles were sold. Sales in the year 1949 amounted to 6,253,602 motor vehicles. These figures were supplied by the Automobile Manufacturers Association, New Center Building, Detroit, Mich.

ASBESTOS FIBRES

FRANK G. RUGGLES & CO.

50 Church St., New York 7, N. Y.

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Builders of

ASBESTOS CEMENT MACHINERY

Our experienced engineers and machinists offer the industry entire machines built to deliver maximum production.

Your Inquiries Are Invited

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All types of ASBESTOS CEMENT PIPE MAKING MACHINES

MAZZA, DALMINE and other Systems

SHEET Making Machines (HATSCHEK System)

Complete Plants Planned, Delivered and Erected
Steel Mandrels, Steel Moulds for Corrugated and Flat Sheets

Modern Asbestos Openers

STOCK'S ENGINEERING COMPANY S. a r.l.

Inc. Durite Tecnica

24, Via di Cavana, Trieste, Italy

Cables: STOCKSDURITE—TRIESTE

CURRENT RANGE OF PRICE

As of February 10, 1951

	Per Ton (2000 lbs.) f.o.b. Mine		
Canada—			
Group No. 1 (Crude No. 1)	$1,100.00	to	$1,500.00
Group No. 2 Crude No. 2; Crude Run-of-Mine and Sundry	485.00	to	900.00
Group No. 3 (Spinning Fibre)	275.00	to	450.00
Group No. 4 (Shingle Fibre)	135.00	to	151.00
Group No. 5 (Paper Fibre)	95.00	to	119.00
Group No. 6 (Waste, Stucco or Plaster)			70.00
Group No. 7 (Refuse or Shorts)	32.00	to	63.00
Vermont—			
	Per Ton of 2000 lbs. f.o.b. Hyde Park or Morrisville, Vt.		
Group No. 4 (Shingle Fibre)	$122.65	to	$148.50
Group No. 5 (Paper Fibre)	86.90	to	106.15
Group No. 6 (Waste, Stucco or Plaster)			64.90
Group No. 7 (Refuse or Shorts)	31.20	to	57.60

ASBESTOS STOCK QUOTATIONS

(These figures are compiled from the Commercial & Financial Chronicle. No guarantee as to their correctness).

		January 1951		
	Par	Low	High	Last
Amer. Br. Shoe (Com.)	np	39	42⅞	41½
Amer. Br. Shoe (Pfd.)	100	107	116½	113¾
Armst. Ck. (Com.)	np	46½	53¾	53¾
Armst. Ck. (Pfd.)	np	102⅛	104	102½
Armst. Ck. (Conv. Pfd.)	np	114	117½	115½
Asb. Corp. (Com.)	np	39	46⅞	46⅞
Asb. Mfg. Co. (Com.)	1	1⅜	1¼	1⅜
Carey (Com.)	10	16	17¾	17¼
Celotex (Com.)	np	14½	17¾	16⅞
Celotex (Pfd.)	20	15¾	16¾	16½
Certainteed (Com.)	1	14⅛	16¾	16¾
Flintkote (Com.)	np	25	29¾	28⅞
Flintkote (Pfd.)	np	104½	107	105¾
Johns-Manville (Com.)	np	47	51⅛	50⅞
Pabco (Com.)	np	17	19¼	19
Pabco (Pfd.)	100	97	108½	100
Ray-Man (Com.)	np	33	35⅛	34¼
Ruberoid (Com.)	np	47½	58¾	57½
Thermoid (Com.)	1	8¼	9½	9⅛
Thermoid (Pfd.)	50	40¼	45	45
Union Asb. & Rub. (Com.)	5	12¼	14	13⅞
United Asb. (Com.)	1	97c	$1.12	$1.05
U. S. Gypsum (Com.)	20	104½	119	115¾
U. S. Gypsum (Pfd.)	100	180	186½	185
U. S. Rubber (Com.)	10	51	58½	55⅞
U. S. Rubber (Pfd.)	100	135	141½	140

NEW PRODUCTS FROM ASBESTOS

When businessmen call on R/M research for assistance, the facilities of four different laboratories are immediately at their disposal. For more than half a century, R/M research has continued to develop new products and new uses for asbestos and asbestos textiles. More developments than could possibly be listed in this small space.

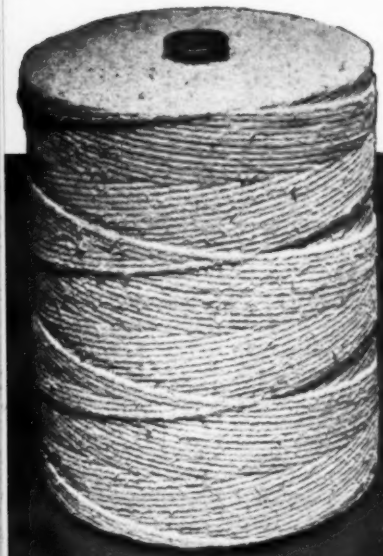
RAYBESTOS-MANHATTAN, INC.

Asbestos Textile Division · Manheim, Pa.

Factories: Manheim, Pa.; No. Charleston, S.C.

RAYBESTOS-MANHATTAN INC., Manufacturers of Asbestos Textiles Packings • Mechanical Rubber Products • Abrasive and Diamond Wheels Brake Linings • Brake Blocks • Clutch Facings • Fan Belts • Radiator Hose Rubber Covered Equipment • Powdered Metal Products • Bowling Balls

SOUTHERN ASBESTO



YARNS

Southern produces fine and heavy Asbestos Yarns in various grades of tensile strength and uniformity. Whatever their use, Southern Asbestos Yarns maintain high quality standards. High tenacity Asbestos Yarns are a Southern specialty. Yarns may be treated with various compounds for a wide range of uses. Write for Folder No. 1011.

A COMPLETE LINE OF ASBESTOS TEXTILE PRODU

THREAD • CORD • CLOTH • ROPE
ROVING • TUBING
CARDED FIBRE • LISTING TAPE
WICKING AND OIL BURNER WICK

Southern's technical and production facilities are available to develop new and improve old uses for asbestos fibres and textiles. Over 25 years of combined specialized experience is at your service.

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